

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-21, 23-30, and 32 are currently pending. Claim 31 has been canceled without prejudice; Claim 32 has been added; and Claims 1 and 29 have been amended by the present amendment. The changes and additions to the claims are supported by the originally filed specification and do not add new matter.

In the outstanding Office Action, Claims 1-14, 19-21, and 23-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,226,095 to Fukuta (hereinafter “the ‘095 patent”) in view of U.S. Patent No. 7,336,387 to Nakami et al. (hereinafter “the ‘387 application”); and Claims 15-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘095 and the ‘387 patents, further in view of U.S. Patent No. 7,212,306 to Chrisop (hereinafter “the ‘306 patent”).

Amended Claim 1 is directed to an image forming apparatus in which hardware resources for use in forming images are provided, and in which one or more processes are run based on programs having instructions for the forming of the images, the apparatus comprising: (1) an off-line unit configured to put, in response to a notice indicating updating of one of the programs, the one or more processes in an off-line state, in which restriction is placed on the running of the one or more processes; (2) a memory area releasing unit configured to release one or more memory areas used by the one or more processes that are put in the off-line state; and (3) a data laying-out unit configured to lay out data in the one or more memory areas released by the memory area releasing unit, wherein the data laid out by said data laying-out unit is an updating program for updating at least one of the programs, and said data laying-out unit obtains the updating program through data

communication. Claim 1 has been amended for the purpose of clarification only and no new matter has been added.

Regarding the rejection of Claim 1 under 35 U.S.C. § 103(a), the Office Action asserts that the '095 patent discloses everything in Claim 1 with the exception of "a memory area releasing unit configured to release one or more memory areas used by the one or more processes that are put in the off-line state; and a data laying-out unit configured to lay out data in the one or more memory areas released by said memory area releasing unit; wherein the data laid out by said data laying-out unit is an updating program for updating at least one of the programs, and said data laying-out unit obtains the updating program through data communication,"¹ and relies on the '387 patent to remedy those deficiencies.

The '095 patent is directed to a system in which an image processing apparatus 110 is connected to two color-copying machines 120 and 121, wherein the image processing apparatus has independent frame memories and interfaces associated with each of the copying machines. Further, the '095 patent discloses that when a fault occurs in one copying machine, the memory area allocated to that copying machine within the image processing apparatus is reduced, and the area is reallocated to the other working copying machine. Further, the '095 patent discloses that the memory areas that are allocated are used for generating image data based upon PDL data by the copying machines.

However, as admitted in the outstanding Office Action, the '095 patent fails to disclose a memory area releasing unit configured to release one or more memory areas used by the one or more processes that are put in the off-line state; and a data laying-out unit configured to lay out data in the one or more memory areas released by the memory area releasing unit, wherein the data laid out by the data-laying out unit is an **updating program** for updating at least one of the programs, as recited in Claim 1.

¹ See page 3 of the outstanding Office Action.

Further, Applicants respectfully submit that the '095 patent fails to disclose an off-line unit configured to put, in response to a notice indicating updating of one of the programs, that one or more processes in an off-line state, as recited in Claim 1. Rather, the '095 patent discloses that when a fault occurs in one copying machine, the memory area allocated to the copying machine is reduced and the area is reallocated to the other copying machine. Applicants respectfully submit that the '095 patent is silent regarding "a notice indicating updating of one of the programs," which, as recited in Claim 1, is the basis for an off-line unit configured to put a process in an off-line state. The '095 patent does not disclose any processes (which are run based on programs) put in an off-line state, but merely states that memory in an image processing apparatus is reallocated based on an occurrence of an error in one or more external copying machines. The '095 patent is silent regarding updating of a program having instructions, as recited in Claim 1.

The '387 patent is directed to an image processing device for carrying out image processing, the image processing device including a detection unit for detecting a number of image data contained in one output job, a dividing unit for dividing the storage area of a storage unit based on the detected number of image data, an acquiring unit for acquiring image processing control information associated with each of the image data, and an image processing unit for use in the divided storage area to implement image processing on image data using the acquired processing control information. In particular, as shown in Figures 7 and 8, the '387 patent discloses an image data layout and a process for securing and releasing memory resources in RAM during processing of the images. Thus, similar to the teachings of the '095 patent, the '387 patent discloses a memory management scheme for managing memory that is set aside as a working area for performing image processing of images.

However, Applicants respectfully submit that the '387 patent fails to disclose a data laying out unit configured to lay out data in the one or more memory areas released by the

memory area releasing unit, wherein the data laid out by the data laying-out unit is an updating program for updating at least one of the programs, wherein the programs have instructions for forming images, as recited in Claim 1. Rather, the '387 patent merely discloses allocating and releasing memory resources during image processing of various images in a RAM. Applicants respectfully submit that the '387 patent is silent regarding laying out an updating program for updating at least one of the programs that have instructions, as recited in Claim 1. The memory management scheme disclosed by the '387 patent is for laying out data used for image processing, not for laying out updating programs for updating at least one of the programs an image forming apparatus that are used to run the one or more processes recited in Claim 1.

Further, Applicants respectfully submit that the '387 patent fails to remedy the deficiencies of the '095 patent with respect to the claimed "notice indicating updating of one of the programs," as recited in Claim 1. The '387 patent has nothing to do with updating programs, nor with putting processes in an off-line state in order to update a program.

Further, Applicants note that Claim 1 recites a memory area releasing unit configured to release one or more memory areas used by the one or more processes that are put in the off-line state. As discussed above, Figures 7 and 8 in the '387 patent relate to the management of memory areas in RAM when multiple images are being processed. The images being processed in the '387 patent are processed by an image processing unit or process. However, Applicants note that this process disclosed by the '387 patent (see '387 Figure 9) is not put in an off-line state, and that the memory being released (see Figure 8) is not being released for a process that is put in an off-line state. On the contrary, the memory allocation scheme disclosed by the '387 patent is performed while the image processing is being performed in the '387 system. The releasing of the memory in the '387 system is part

of the image processing, and is not for updating a program corresponding to a process that is being put in an off-line state, as required by Claim 1.

Further, Applicants note that the Office Action cites to column 14, lines 37-46 in the '387 patent as disclosing that the data laid out is an "updating program" for updating at least one of the programs, as recited in Claim 1. However, Applicants note that this paragraph in the '387 patent describes step S100 in Figure 9. This paragraph merely states that the image data processing application/program is stored in the PROM 52, and is read out when the printer is turned on. Further, the paragraph states the CPU 51 acquires layout information for an image file. However, Applicants respectfully submit that this has nothing to do with an updating program for updating at least one of the programs, as required by Claim 1. The layout information referred to in this paragraph relates to a layout of an image file, and there is no teaching or suggestion of laying out an updating program for updating at least one of the programs. The image data processing application/program disclosed by the '387 patent is not updated, it is merely read out of the read-only memory upon startup.

Thus, no matter how the teachings of the '095 and the '387 patents are combined, the combination does not teach or suggest a notice indicating updating of one of the programs, a memory area releasing unit configured to release one or more memory areas used by the one or more processes that are put in an off-line state, and a data laying-out unit configured to lay out data in the one or more memory areas released by the memory area releasing unit, wherein the data laid out by the data laying-out unit is an updating program for updating at least one of the programs, as recited in Claim 1. Accordingly, Applicants respectfully traverse the rejection of Claim 1 (and all similarly rejected dependent claims) as being unpatentable over the '095 and '387 patents.

Regarding the rejection of dependent Claims 15-18 under 35 U.S.C. § 103(a), Applicants respectfully submit that the '306 patent fails to remedy the deficiencies of the

'387 and '095 patents, as discussed above. Accordingly, Applicants respectfully traverse the rejection of Claims 15-18, for the reasons stated above.

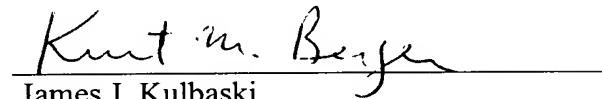
Independent Claim 29 is directed to a method of acquiring one or more memory areas in an image forming apparatus and includes the step of laying out data in the one or more memory areas released by the memory area releasing step, wherein the data laid out in the data laying-out step in an updating program for updating at least one of the programs. As discussed above, the combined teachings of the '095 and '387 patents fail to disclose this limitation. For the reasons stated above, Applicants respectfully traverse the rejection of Claims 29 and 30 as being unpatentable over the '387 and '095 patents.

The present amendment also sets forth new Claim 32 for examination on the merits. New Claim 32, which depends from Claim 1, clarifies that the memory area releasing unit comprises a first unit configured to release one or more memory areas used by said one or more processes that are put in the off-line state; and a second unit configured to release, in addition to the one or more memory areas used by said one or more processes, one or more memory areas for storing information that is necessary regardless of whether the one or more processes are executed. New Claim 32 is supported by the originally filed specification at least on page 31, line 19 to page 32, line 14; and page 35, line 22 to page 36, line 4.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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